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P#11

1653

APR 30 2002

TECH CENTER 1600/2900



1600

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/648,692B

DATE: 04/22/2002

TIME: 11:21:00

Input Set : A:\17311SEQLIST1-4-02.TXT  
 Output Set: N:\CRF3\04222002\I648692B.raw

P.b

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4 <110> APPLICANT: Dolly, James Oliver
5      Li, Yan
6      Chan, C.K.
7      Aoki, Kei Roger
9 <120> TITLE OF INVENTION: Activatable Recombinant Neurotoxins
12 <130> FILE REFERENCE: 17311(BO)
14 <140> CURRENT APPLICATION NUMBER: 09/648,692B
15 <141> CURRENT FILING DATE: 2000-08-25
17 <150> PRIOR APPLICATION NUMBER: 60/150,710
18 <151> PRIOR FILING DATE: 1999-08-25
20 <160> NUMBER OF SEQ ID NOS: 24
22 <170> SOFTWARE: FastSEQ for Windows Version 3.0
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 44
26 <212> TYPE: DNA
27 <213> ORGANISM: Artificial Sequence
29 <220> FEATURE:
30 <223> OTHER INFORMATION: PCR primer
32 <400> SEQUENCE: 1
33 gactgggtgga cagcaagtgc accggaagct ttacgacgat gacg          44
35 <210> SEQ ID NO: 2
36 <211> LENGTH: 44
37 <212> TYPE: DNA
38 <213> ORGANISM: Artificial Sequence
40 <220> FEATURE:
41 <223> OTHER INFORMATION: PCR primer
43 <400> SEQUENCE: 2
44 cgtcatcggtc gttaaagcttc cggtcgactt gctgtccacc agtc          44
46 <210> SEQ ID NO: 3
47 <211> LENGTH: 30
48 <212> TYPE: DNA
49 <213> ORGANISM: Artificial Sequence
51 <220> FEATURE:
52 <223> OTHER INFORMATION: PCR primer
54 <400> SEQUENCE: 3
55 aatagatcta gatcattaaac agattttagga                      30
57 <210> SEQ ID NO: 4
58 <211> LENGTH: 27
59 <212> TYPE: DNA
60 <213> ORGANISM: Artificial Sequence
62 <220> FEATURE:
63 <223> OTHER INFORMATION: PCR primer
65 <400> SEQUENCE: 4

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Input Set : A:\17311SEQLIST1-4-02.TXT  
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66 ttctaaagat ctatacattt gataact 27  
68 <210> SEQ ID NO: 5  
69 <211> LENGTH: 27  
70 <212> TYPE: DNA  
71 <213> ORGANISM: Artificial Sequence  
73 <220> FEATURE:  
74 <223> OTHER INFORMATION: PCR primer  
76 <400> SEQUENCE: 5  
77 atgtatagat ctttagaata tcaagta 27  
79 <210> SEQ ID NO: 6  
80 <211> LENGTH: 45  
81 <212> TYPE: DNA  
82 <213> ORGANISM: Artificial Sequence  
84 <220> FEATURE:  
85 <223> OTHER INFORMATION: PCR primer  
87 <400> SEQUENCE: 6  
88 atcgataagc ttttatcagt cgacccaaca atccagattt ttaga 45  
90 <210> SEQ ID NO: 7  
91 <211> LENGTH: 65  
92 <212> TYPE: PRT  
93 <213> ORGANISM: Artificial Sequence  
95 <220> FEATURE:  
96 <223> OTHER INFORMATION: Engineered Intrachain loop region for C. tetani  
97 toxin  
99 <400> SEQUENCE: 7  
100 Ser Lys Leu Ile Gly Leu Cys Lys Lys Ile Ile Pro Pro Thr Asn Ile  
101 1 5 10 15  
102 Arg Glu Asn Leu Tyr Asn Arg Thr Ala Gly Glu Lys Leu Tyr Asp Asp  
103 20 25 30  
104 Asp Asp Asp Arg Trp Gly Ser Ser Arg Ser Leu Thr Asp Leu Gly  
105 35 40 45  
106 Gly Glu Leu Cys Ile Lys Asn Glu Asp Leu Thr Phe Ile Ala Glu Lys  
107 50 55 60  
108 Asn  
109 65  
111 <210> SEQ ID NO: 8  
112 <211> LENGTH: 36  
113 <212> TYPE: DNA  
114 <213> ORGANISM: Artificial Sequence  
116 <220> FEATURE:  
117 <223> OTHER INFORMATION: PCR primer  
119 <400> SEQUENCE: 8  
120 aatagaactg caggagaaaa gctttacgac gatgac 36  
122 <210> SEQ ID NO: 9  
123 <211> LENGTH: 36  
124 <212> TYPE: DNA  
125 <213> ORGANISM: Artificial Sequence  
127 <220> FEATURE:  
128 <223> OTHER INFORMATION: PCR primer

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|     |   |      |
|-----|---|------|
| 130 | <400> SEQUENCE: 9   |      |
| 131 | gtcatcgctcg taaagctttt ctccctgcagt tctatt                               | 36   |
| 133 | <210> SEQ ID NO: 10   |      |
| 134 | <211> LENGTH: 4017  |      |
| 135 | <212> TYPE: DNA   |      |
| 136 | <213> ORGANISM: Clostridium botulinum                                   |      |
| 138 | <400> SEQUENCE: 10  |      |
| 139 | gaattcaagt agtagataat aaaaataatg ccacagattt ttattattaa taatgatata       | 60   |
| 140 | tttatctcta actgtttaac tttaacttat aacaatgtaa atatatattt gtctataaaa       | 120  |
| 141 | aatcaagatt acaattgggt tatatgtgtat cttaatcatg atataccaaa aaagtcatat      | 180  |
| 142 | ctatggatat taaaaatata ataaaattta aattaggaga tgctgtatat gccaaaaatt       | 240  |
| 143 | aatagttta attataatga tcctgttaat gatagaacaa ttttatataat taaaccaggc       | 300  |
| 144 | ggttgtcaag aattttataa atcatttaat attatgaaaaa atatttggat aattccagag      | 360  |
| 145 | agaaaatgtaa ttggtacaac cccccaagat tttcatccgc ctacttcatt aaaaaatggaa     | 420  |
| 146 | gatagtagtt attatgaccc taattatita caaagtgtat aagaaaagga tagattttta       | 480  |
| 147 | aaaatagtca caaaaatatt taatagaata aataataatc tttcaggggg gatttttata       | 540  |
| 148 | gaagaactgt caaaaagctaa tccatattta gggaaatgata atactccaga taatcaattc     | 600  |
| 149 | catattgggt atgcatcagc agttgagatt aaattctcaa atggtagcca agacatacta       | 660  |
| 150 | ttacctaattt ttattataat gggagcagag cctgatttat ttgaaactaa cagttccaaat     | 720  |
| 151 | atttctctaa gaaataattt tatgccaagc aatcaccgtt ttggatcaat agctatagta       | 780  |
| 152 | acattctcac ctgaatattt ttttagattt aatgataattt gtatgaatga atttatttcaa     | 840  |
| 153 | gatcctgctc ttacattaat gcatgaatata atacattcat tacatgact atatggggct       | 900  |
| 154 | aaagggatata ctacaaagta tactataaca caaaaacaaa atcccctaata aacaaatata     | 960  |
| 155 | agaggtacaa atattgaaga attcttaact tttggaggtt ctgatttaaa cattattact       | 1020 |
| 156 | agtgcctagt ccaatgatata ctatactaattt cttctagctg attataaaaa aatagcgtct    | 1080 |
| 157 | aaacttagca aagtacaagt atctaatttca ctacttaatc cttataaaaga tggggggaa      | 1140 |
| 158 | gcaaagtatg gattagataa agatgctagc ggaattttt cggtaaaat aacaaaattt         | 1200 |
| 159 | aatgatattt ttaaaaaattt atacagcttt acgaaatttg atttacgaaac taaatttcaa     | 1260 |
| 160 | gttaaatgtt ggcaaaactt tattggacag tataaataact tcaaacttca aacttggta       | 1320 |
| 161 | aatgatttca tttataatata atcagaaggc tataatataa ataatttaaa ggtttttttt      | 1380 |
| 162 | agaggacaga atgcaaaattt aaatcctaga attattacac caattacagg tagaggacta      | 1440 |
| 163 | gtaaaaaaaaa tcatttagatt ttgtaaaaat attgtttctg taaaaggcat aaggaaatca     | 1500 |
| 164 | atatgtatcg aaataaataa tggtgagtt tttttgtgg cttccgagaa tagttataat         | 1560 |
| 165 | gatgataata taaatactcc taaagaaattt gacgatacag taacttcaaa taataattat      | 1620 |
| 166 | gaaaatgatt tagatcaggt tattttaaat ttaatagtg aatcagcacc tgactttca         | 1680 |
| 167 | gatgaaaaat taaatttacat tatccaaaat gatgctata tacccaaaata tgattctaat      | 1740 |
| 168 | ggaacaagtg atatagaaca acatgatgtt aatgaactta atgtattttt ctattnagat       | 1800 |
| 169 | gcacagaaag tgcccgagg tggaaataat gtcaatctca cctcttcaat tgatacagca        | 1860 |
| 170 | ttatttagaaac aacccaaaat atatacattt ttttcatcag aatttattaa taatgtcaat     | 1920 |
| 171 | aaacctgtgc aagcagcatt atttgttaagc tggatacaac aagtgttagt agattttact      | 1980 |
| 172 | actgaagcta accaaaaaaat tactgttgat aaaattgcag atatttctat agttgttcca      | 2040 |
| 173 | tatataggtc ttgcattttaaat tataggaaat gaagcacaat aaggaaattt taaagatgca    | 2100 |
| 174 | tttgcattttat taggagcagg tattttataa gaatttgcac ccgagctttt aatttcttaca    | 2160 |
| 175 | attttagtat tcacgataaa atctttttt ggttcatctg ataataaaaa taaagttatt        | 2220 |
| 176 | aaagcaataa ataatgcatt gaaagaaaga gatgaaaaat gggaaagaat atatagttt        | 2280 |
| 177 | atagtatcgat attggatgac taaaatttaat acacaatttta ataaaaagaaa agaacaatg    | 2340 |
| 178 | tatcaagctt tacaaaatca agttaatgcata attaaaacaa taatagaatc taatgtataat    | 2400 |
| 179 | agttataactt tagaggaaaaaa aaatgagctt acaaataataat atgatattaa gcaaataagaa | 2460 |
| 180 | aatgaactta atcaaaaaggt ttctatagca atgaataataa tagacaggtt cttaactgaa     | 2520 |

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|     |  |      |
|-----|--|------|
| 181 | agttctatat cctatttaat gaaaataata aatgaagtaa aaattaataa attaagagaa    | 2580 |
| 182 | tatgatgaga atgtcaaaac gtatttattt aatttatatta tacaacatgg atcaatcttg   | 2640 |
| 183 | ggagagagtc agcaagaact aaattctatg gtaactgata ccctaataa tagtattcct     | 2700 |
| 184 | ttaagctt cttcttatac agatgataaa atttaattt cataatttaa taaattctt        | 2760 |
| 185 | aagagaatta aaagtagttc agtttaat atgagatata aaaatgataa atacgtagat      | 2820 |
| 186 | acttcaggat atgattcaaa tataaatattt aatggagatg tatataaataa tccaaactaat | 2880 |
| 187 | aaaaatcaat ttgaaatata taatgataaa ctttgtaaag ttaatataatc tc当地atgat    | 2940 |
| 188 | tacatttat atgataataa atataaaaat tttagtatta gttttgggt aagaattcct      | 3000 |
| 189 | aactatgata ataagatagt aaatgttaat aatgaataca ctataataa ttgtatgaga     | 3060 |
| 190 | gataataatt caggatggaa agtatcttt aatcataatg aaataattt gacattcgaa      | 3120 |
| 191 | gataatcgag gaattaatca aaaatttagca tttaactatg gtaacgc当地 tggatttct     | 3180 |
| 192 | gattatataa ataagtggat ttttgttaact ataaactatg atagattagg agattctaa    | 3240 |
| 193 | ctttatatta atggaaattt aatagatcaa aaatcaattt taaattttagg taatattcat   | 3300 |
| 194 | gttagtgaca atatattatt taaaatagtt aattgttagtt atacaagata tattggatt    | 3360 |
| 195 | agatattttt atattttga taaaagaatta gatgaaacag aaattcaaaac ttttatatgc   | 3420 |
| 196 | aatgaaccta atacaaatattt tttgaaggat tttggggaa attatttgct ttatgacaaa   | 3480 |
| 197 | gaatactatt tattaaatgt gttaaaacca aataacttta ttgataggag aaaagattct    | 3540 |
| 198 | actttaagca ttaataatattt aagaaggactt attcttttag ctaatagatt atatagtgg  | 3600 |
| 199 | ataaaaagttttaaaatcaaaag agttaataat agtagtacta acgataatct tttagaaag   | 3660 |
| 200 | aatgatcagg tatataattaa ttttgttagcc agcaaaactc acttatttcc attatatgct  | 3720 |
| 201 | gatacagcta ccacaaataa agagaaaaca ataaaaatcatcatctgg caatagattt       | 3780 |
| 202 | aatcaagtatg tagttatgaa ttcaagttaga aattgtacaa tgaattttaa aaataataat  | 3840 |
| 203 | ggaaaataataa ttgggttgggtt aggtttcaag gcagatactg tcgttgc当地 tacttggat  | 3900 |
| 204 | tatacacata tgagagatca tacaacacgc aatggatgtt tttggactt tatttctgaa     | 3960 |
| 205 | gaacatggat ggcaagaaaa ataaaaatata gattaaacgg ctaaagtcat aaattcc      | 4017 |
| 207 | <210> SEQ ID NO: 11  |      |
| 208 | <211> LENGTH: 37   |      |
| 209 | <212> TYPE: DNA  |      |
| 210 | <213> ORGANISM: Artificial Sequence                                  |      |
| 212 | <220> FEATURE:   |      |
| 213 | <223> OTHER INFORMATION: PCR primer                                  |      |
| 215 | <400> SEQUENCE: 11   |      |
| 216 | cccgatccc caaaaattaa tagtttaat tataatg                               | 37   |
| 218 | <210> SEQ ID NO: 12  |      |
| 219 | <211> LENGTH: 36   |      |
| 220 | <212> TYPE: DNA  |      |
| 221 | <213> ORGANISM: PCR primer   |      |
| 223 | <400> SEQUENCE: 12   |      |
| 224 | ccccctgcagt cattttctt gccatccatg ttcttc                              | 36   |
| 226 | <210> SEQ ID NO: 13  |      |
| 227 | <211> LENGTH: 31   |      |
| 228 | <212> TYPE: DNA  |      |
| 229 | <213> ORGANISM: Artificial Sequence                                  |      |
| 231 | <220> FEATURE:   |      |
| 232 | <223> OTHER INFORMATION: PCR primer                                  |      |
| 234 | <400> SEQUENCE: 13   |      |
| 235 | cagttaatac attcattaca tggactatata g                                  | 31   |
| 237 | <210> SEQ ID NO: 14  |      |
| 238 | <211> LENGTH: 26   |      |

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```

239 <212> TYPE: DNA
240 <213> ORGANISM: Artificial Sequence
242 <220> FEATURE:
243 <223> OTHER INFORMATION: PCR primer
245 <400> SEQUENCE: 14
246 atgcattaat gtaagagcag gatctt
248 <210> SEQ ID NO: 15
249 <211> LENGTH: 5
250 <212> TYPE: PRT
251 <213> ORGANISM: Unknown
253 <220> FEATURE:
254 <223> OTHER INFORMATION: protease cleavage site
256 <400> SEQUENCE: 15
257 Asp Asp Asp Asp Lys
258 1 5
260 <210> SEQ ID NO: 16
261 <211> LENGTH: 8
262 <212> TYPE: PRT
263 <213> ORGANISM: Unknown
265 <220> FEATURE:
266 <223> OTHER INFORMATION: Protease cleavage site
268 <400> SEQUENCE: 16
269 Leu Glu Val Leu Phe Gln Gly Pro
270 1 5
272 <210> SEQ ID NO: 17
273 <211> LENGTH: 5
274 <212> TYPE: PRT
275 <213> ORGANISM: Clostridium species
277 <220> FEATURE:
278 <221> NAME/KEY: ZN_FING
279 <222> LOCATION: (1)...(5)
280 <223> OTHER INFORMATION: Xaa=any amino acid
282 <400> SEQUENCE: 17
W--> 283 His Glu Xaa Xaa His
284 1 5
286 <210> SEQ ID NO: 18
287 <211> LENGTH: 51
288 <212> TYPE: DNA
289 <213> ORGANISM: Artificial Sequence
291 <220> FEATURE:
292 <223> OTHER INFORMATION: Linker
294 <400> SEQUENCE: 18
295 ggagaaaagc tttacgacga tgacgataag gatcgatgg gatcctctag a
297 <210> SEQ ID NO: 19
298 <211> LENGTH: 22
299 <212> TYPE: PRT
300 <213> ORGANISM: Artificial Sequence
302 <220> FEATURE:
303 <223> OTHER INFORMATION: Linker

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RAW SEQUENCE LISTING ERROR SUMMARY                   DATE: 04/22/2002  
PATENT APPLICATION: US/09/648,692B               TIME: 11:21:01

Input Set : A:\17311SEQLIST1-4-02.TXT  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:17; Xaa Pos. 3,4  
Seq#:22; Xaa Pos. 2,3  
Seq#:23; Xaa Pos. 2,3,5